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SEQUENCE LISTING

<110> JENTSCH, THOMAS J.

<120> TEST SYSTEM FOR THE DEVELOPMENT OF THERAPEUTIC AGENTS,
IN PARTICULAR ACTIVE COMPOUNDS FOR THE TREATMENT OF
OSTEOPOROSIS

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<140> 10/622,377

<141> 2003-07-18

<150> PCT/DK02/00038

<151> 2002-01-17

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<170> PatentIn Ver. 3.2

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Arg Glu Val Leu Ser Ala Ala Ser Ala Ala Gly Val Ser Val Ala Phe	
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Gly Ala Pro Ile Gly Gly Val Leu Phe Ser Leu Glu Glu Val Ser Tyr	
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Tyr Phe Pro Leu Lys Thr Leu Trp Arg Ser Phe Phe Ala Ala Leu Val	
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gca gca ttt gtt ttg aga tcc atc aat cca ttt ggt aac agc cgt ctg	1323
Ala Ala Phe Val Leu Arg Ser Ile Asn Pro Phe Gly Asn Ser Arg Leu	
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Val Leu Phe Tyr Val Glu Tyr His Thr Pro Trp Tyr Leu Phe Glu Leu	
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Phe Pro Phe Ile Leu Leu Gly Val Phe Gly Gly Leu Trp Gly Ala Phe	
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Phe Ile Arg Ala Asn Ile Ala Trp Cys Arg Arg Arg Lys Ser Thr Lys	
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Phe Gly Lys Tyr Pro Val Leu Glu Val Ile Ile Val Ala Ala Ile Thr	
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Ala	Val	Ile	Ala	Phe	Pro	Asn	Pro	Tyr	Thr	Arg	Leu	Asn	Thr	Ser	Glu	
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ctg	att	aaa	gag	ctg	ttt	aca	gat	tgt	ggg	ccg	ttg	gaa	tcc	tcc	tct	1611
Leu	Ile	Lys	Glu	Leu	Phe	Thr	Asp	Cys	Gly	Pro	Leu	Glu	Ser	Ser	Ser	
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ctc	tgt	gac	tac	aga	aat	gac	atg	aat	gcc	agt	aaa	att	gtt	gac	gat	1659
Leu	Cys	Asp	Tyr	Arg	Asn	Asp	Met	Asn	Ala	Ser	Lys	Ile	Val	Asp	Asp	
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att	cct	gac	cgt	cca	gca	ggc	gtt	gga	gta	tat	tca	gct	atc	tgg	cag	1707
Ile	Pro	Asp	Arg	Pro	Ala	Gly	Val	Gly	Val	Tyr	Ser	Ala	Ile	Trp	Gln	
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Leu	Cys	Leu	Ala	Leu	Ile	Phe	Lys	Ile	Ile	Met	Thr	Val	Phe	Thr	Phe	
445					450					455					460	
ggt	atc	aag	gtc	ccg	tca	ggc	ttg	ttt	atc	ccc	agc	atg	gcc	att	gga	1803
Gly	Ile	Lys	Val	Pro	Ser	Gly	Leu	Phe	Ile	Pro	Ser	Met	Ala	Ile	Gly	
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gcc	att	gca	ggg	aga	att	gtg	ggg	atc	gct	gtg	gag	cag	ctt	gcc	tac	1851
Ala	Ile	Ala	Gly	Arg	Ile	Val	Gly	Ile	Ala	Val	Glu	Gln	Leu	Ala	Tyr	
			480					485					490			
tat	cac	cac	gac	tgg	ttt	atc	ttc	aag	gag	tgg	tgt	gag	gtt	ggg	gct	1899
Tyr	His	His	Asp	Trp	Phe	Ile	Phe	Lys	Glu	Trp	Cys	Glu	Val	Gly	Ala	
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Asp	Cys	Ile	Thr	Pro	Gly	Leu	Tyr	Ala	Met	Val	Gly	Ala	Ala	Ala	Cys	
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tta	ggt	ggt	gtg	aca	aga	atg	act	gtg	tct	ctg	gtg	gtt	att	gtt	ttt	1995
Leu	Gly	Gly	Val	Thr	Arg	Met	Thr	Val	Ser	Leu	Val	Val	Ile	Val	Phe	
525					530					535					540	
gaa	ctt	act	gga	ggc	ttg	gaa	tat	att	gtt	cct	ctt	atg	gct	gca	gta	2043
Glu	Leu	Thr	Gly	Gly	Leu	Glu	Tyr	Ile	Val	Pro	Leu	Met	Ala	Ala	Val	
			545					550						555		
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Met	Thr	Ser	Lys	Trp	Val	Gly	Asp	Ala	Phe	Gly	Arg	Glu	Gly	Ile	Tyr	
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gaa	gca	cac	atc	cga	cta	aat	ggg	tac	cct	ttc	ttg	gat	gca	aaa	gaa	2139
Glu	Ala	His	Ile	Arg	Leu	Asn	Gly	Tyr	Pro	Phe	Leu	Asp	Ala	Lys	Glu	
		575					580					585				

gaa ttc act cat aca acc ctg gct gct gat gtt atg aga cct cga aga 2187
 Glu Phe Thr His Thr Thr Leu Ala Ala Asp Val Met Arg Pro Arg Arg
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agt gac cct ccc tta gct gtt ttg aca cag gac aat atg aca gta gat 2235
 Ser Asp Pro Pro Leu Ala Val Leu Thr Gln Asp Asn Met Thr Val Asp
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 Asp Ile Glu Asn Met Ile Asn Glu Thr Ser Tyr Asn Gly Phe Pro Val
 625 630 635

ata atg tca aaa gaa tct cag aga tta gtg gga ttt gcc ctc aga aga 2331
 Ile Met Ser Lys Glu Ser Gln Arg Leu Val Gly Phe Ala Leu Arg Arg
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 Val Gly Ser Ser Arg Val Cys Phe Ala Gln His Thr Pro Ser Leu Pro
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gca gaa agt cca cgg cca tta aaa ctg aga agc atc ctt gac atg agc 2475
 Ala Glu Ser Pro Arg Pro Leu Lys Leu Arg Ser Ile Leu Asp Met Ser
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cct ttt aca gtg aca gac cac acc cca atg gag att gtg gta gac atc 2523
 Pro Phe Thr Val Thr Asp His Thr Pro Met Glu Ile Val Val Asp Ile
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 Phe Arg Lys Leu Gly Leu Arg Gln Cys Leu Val Thr His Asn Gly Arg
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ctc ctt ggc att ata aca aaa aaa gat atc ctc cgt cat atg gcc cag 2619
 Leu Leu Gly Ile Ile Thr Lys Lys Asp Ile Leu Arg His Met Ala Gln
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 Thr Ala Asn Gln Asp Pro Ala Ser Ile Met Phe Asn
 750 755 760

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<213> Mus musculus

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Ile Asp Trp Val Arg Glu Lys Cys Lys Asp Arg Glu Arg His Arg Arg
          35          40          45

Ile Asn Ser Lys Lys Lys Glu Ser Ala Trp Glu Met Thr Lys Ser Leu
          50          55          60

Tyr Asp Ala Trp Ser Gly Trp Leu Val Val Thr Leu Thr Gly Leu Ala
          65          70          75          80

Ser Gly Ala Leu Ala Gly Leu Ile Asp Ile Ala Ala Asp Trp Met Thr
          85          90          95

Asp Leu Lys Glu Gly Ile Cys Leu Ser Ala Leu Trp Tyr Asn His Glu
          100          105          110

Gln Cys Cys Trp Gly Ser Asn Glu Thr Thr Phe Glu Glu Arg Asp Lys
          115          120          125

Cys Pro Gln Trp Lys Thr Trp Ala Glu Leu Ile Ile Gly Gln Ala Glu
          130          135          140

Gly Pro Gly Ser Tyr Ile Met Asn Tyr Ile Met Tyr Ile Phe Trp Ala
          145          150          155          160

Leu Ser Phe Ala Phe Leu Ala Val Ser Leu Val Lys Val Phe Ala Pro
          165          170          175

Tyr Ala Cys Gly Ser Gly Ile Pro Glu Ile Lys Thr Ile Leu Ser Gly
          180          185          190

Phe Ile Ile Arg Gly Tyr Leu Gly Lys Trp Thr Leu Met Ile Lys Thr
          195          200          205

Ile Thr Leu Val Leu Ala Val Ala Ser Gly Leu Ser Leu Gly Lys Glu
          210          215          220

Gly Pro Leu Val His Val Ala Cys Cys Cys Gly Asn Ile Phe Ser Tyr
          225          230          235          240

Leu Phe Pro Lys Tyr Ser Thr Asn Glu Ala Lys Lys Arg Glu Val Leu
          245          250          255

Ser Ala Ala Ser Ala Ala Gly Val Ser Val Ala Phe Gly Ala Pro Ile
          260          265          270

Gly Gly Val Leu Phe Ser Leu Glu Glu Val Ser Tyr Tyr Phe Pro Leu
          275          280          285

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Lys Thr Leu Trp Arg Ser Phe Phe Ala Ala Leu Val Ala Ala Phe Val
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 Leu Arg Ser Ile Asn Pro Phe Gly Asn Ser Arg Leu Val Leu Phe Tyr
 305 310 315 320
 Val Glu Tyr His Thr Pro Trp Tyr Leu Phe Glu Leu Phe Pro Phe Ile
 325 330 335
 Leu Leu Gly Val Phe Gly Gly Leu Trp Gly Ala Phe Phe Ile Arg Ala
 340 345 350
 Asn Ile Ala Trp Cys Arg Arg Arg Lys Ser Thr Lys Phe Gly Lys Tyr
 355 360 365
 Pro Val Leu Glu Val Ile Ile Val Ala Ala Ile Thr Ala Val Ile Ala
 370 375 380
 Phe Pro Asn Pro Tyr Thr Arg Leu Asn Thr Ser Glu Leu Ile Lys Glu
 385 390 395 400
 Leu Phe Thr Asp Cys Gly Pro Leu Glu Ser Ser Ser Leu Cys Asp Tyr
 405 410 415
 Arg Asn Asp Met Asn Ala Ser Lys Ile Val Asp Asp Ile Pro Asp Arg
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 Pro Ala Gly Val Gly Val Tyr Ser Ala Ile Trp Gln Leu Cys Leu Ala
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 Leu Ile Phe Lys Ile Ile Met Thr Val Phe Thr Phe Gly Ile Lys Val
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 Pro Ser Gly Leu Phe Ile Pro Ser Met Ala Ile Gly Ala Ile Ala Gly
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 Arg Ile Val Gly Ile Ala Val Glu Gln Leu Ala Tyr Tyr His His Asp
 485 490 495
 Trp Phe Ile Phe Lys Glu Trp Cys Glu Val Gly Ala Asp Cys Ile Thr
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 Pro Gly Leu Tyr Ala Met Val Gly Ala Ala Ala Cys Leu Gly Gly Val
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 Thr Arg Met Thr Val Ser Leu Val Val Ile Val Phe Glu Leu Thr Gly
 530 535 540
 Gly Leu Glu Tyr Ile Val Pro Leu Met Ala Ala Val Met Thr Ser Lys
 545 550 555 560
 Trp Val Gly Asp Ala Phe Gly Arg Glu Gly Ile Tyr Glu Ala His Ile
 565 570 575

Arg Leu Asn Gly Tyr Pro Phe Leu Asp Ala Lys Glu Glu Phe Thr His
 580 585 590
 Thr Thr Leu Ala Ala Asp Val Met Arg Pro Arg Arg Ser Asp Pro Pro
 595 600 605
 Leu Ala Val Leu Thr Gln Asp Asn Met Thr Val Asp Asp Ile Glu Asn
 610 615 620
 Met Ile Asn Glu Thr Ser Tyr Asn Gly Phe Pro Val Ile Met Ser Lys
 625 630 635 640
 Glu Ser Gln Arg Leu Val Gly Phe Ala Leu Arg Arg Asp Leu Thr Ile
 645 650 655
 Ala Ile Glu Ser Ala Arg Lys Lys Gln Glu Gly Ile Val Gly Ser Ser
 660 665 670
 Arg Val Cys Phe Ala Gln His Thr Pro Ser Leu Pro Ala Glu Ser Pro
 675 680 685
 Arg Pro Leu Lys Leu Arg Ser Ile Leu Asp Met Ser Pro Phe Thr Val
 690 695 700
 Thr Asp His Thr Pro Met Glu Ile Val Val Asp Ile Phe Arg Lys Leu
 705 710 715 720
 Gly Leu Arg Gln Cys Leu Val Thr His Asn Gly Arg Leu Leu Gly Ile
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Asp Leu Lys Glu Gly Val Cys Leu Ser Ala Phe Trp Tyr Ser His Glu	
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Gln Cys Cys Trp Thr Ser Asn Glu Thr Thr Phe Glu Asp Arg Asp Lys	
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Cys Pro Leu Trp Gln Lys Trp Ser Glu Leu Leu Val Asn Gln Ser Glu	
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Gly Ala Ser Ala Tyr Ile Leu Asn Tyr Leu Met Tyr Ile Leu Trp Ala	
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Leu Leu Phe Ala Phe Leu Ala Val Ser Leu Val Arg Val Phe Ala Pro	
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Tyr Ala Cys Gly Ser Gly Ile Pro Glu Ile Lys Thr Ile Leu Ser Gly	
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Phe Ile Ile Arg Gly Tyr Leu Gly Lys Trp Thr Leu Leu Ile Lys Thr	
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Val Thr Leu Val Leu Val Val Ser Ser Gly Leu Ser Leu Gly Lys Glu	
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Leu Phe Ser Lys Tyr Ser Lys Asn Glu Gly Lys Arg Arg Glu Val Leu	
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Ser Ala Ala Ala Ala Ala Gly Val Ser Val Ala Phe Gly Ala Pro Ile	
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Gly Gly Val Leu Phe Ser Leu Glu Glu Val Ser Tyr Tyr Phe Pro Leu	
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ctg ctt ggg gtc ttc ggg ggc ttg tgg gga acc ctc ttc atc cgc tgc Leu Leu Gly Val Phe Gly Gly Leu Trp Gly Thr Leu Phe Ile Arg Cys 245 250 255	824
aac atc gcc tgg tgc agg agg cgc aag acc acc agg ctg ggg aag tac Asn Ile Ala Trp Cys Arg Arg Arg Lys Thr Thr Arg Leu Gly Lys Tyr 260 265 270	872
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His Leu Asn Gly Tyr Pro Phe Leu Asp Val Lys Asp Glu Phe Thr His	
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ctc atc aag gag acc gac tac aac ggc ttc ccc gtg gtg gtc tcc aga	1688
Leu Ile Lys Glu Thr Asp Tyr Asn Gly Phe Pro Val Val Val Ser Arg	
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Asp Ser Glu Arg Leu Ile Gly Phe Ala Gln Arg Arg Glu Leu Ile Leu	
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His Pro Leu Lys Leu Arg Arg Ile Leu Asn Leu Ser Pro Phe Thr Val	
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 Thr Asp His Thr Pro Met Glu Thr Val Val Asp Ile Phe Arg Lys Leu
 615 620 625

ggg ctt cgg cag tgc ctg gtg acg cgg agc ggg aga ctt ctt ggc atc 1976
 Gly Leu Arg Gln Cys Leu Val Thr Arg Ser Gly Arg Leu Leu Gly Ile
 630 635 640

atc aca aaa aag gat gtt ctg aga cat atg gcc cag atg gca aac cag 2024
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 Asp Pro Glu Ser Ile Met Phe Asn
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<212> PRT

<213> Homo sapiens

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Ser Glu Gly Ala Ser Ala Tyr Ile Leu Asn Tyr Leu Met Tyr Ile Leu
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 Ala Pro Tyr Ala Cys Gly Ser Gly Ile Pro Glu Ile Lys Thr Ile Leu
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 Ser Gly Phe Ile Ile Arg Gly Tyr Leu Gly Lys Trp Thr Leu Leu Ile
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 Lys Thr Val Thr Leu Val Leu Val Val Ser Ser Gly Leu Ser Leu Gly
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 130 135 140
 Ser Ser Leu Phe Ser Lys Tyr Ser Lys Asn Glu Gly Lys Arg Arg Glu
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 Pro Ile Gly Gly Val Leu Phe Ser Leu Glu Glu Val Ser Tyr Tyr Phe
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 Pro Leu Lys Thr Leu Trp Arg Ser Phe Phe Ala Ala Leu Val Ala Ala
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 260 265 270
 Lys Tyr Pro Val Leu Glu Val Ile Val Val Thr Ala Ile Thr Ala Ile
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 Ile Ala Tyr Pro Asn Pro Tyr Thr Arg Gln Ser Thr Ser Glu Leu Ile
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 Ser Glu Leu Phe Asn Asp Cys Gly Ala Leu Glu Ser Ser Gln Leu Cys
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 Asp Tyr Ile Asn Asp Pro Asn Met Thr Arg Pro Val Asp Asp Ile Pro
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 Asp Arg Pro Ala Gly Val Gly Val Tyr Thr Ala Met Trp Gln Leu Ala
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Leu Ala Leu Ile Phe Lys Ile Val Val Thr Ile Phe Thr Phe Gly Met
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 Lys Ile Pro Ser Gly Leu Phe Ile Pro Ser Met Ala Val Gly Ala Ile
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 Ala Gly Arg Met Val Gly Ile Gly Val Glu Gln Leu Ala Tyr His His
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 Val Thr Pro Gly Leu Tyr Ala Met Val Gly Ala Ala Ala Cys Leu Gly
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 Ser Arg Asp Ser Glu Arg Leu Ile Gly Phe Ala Gln Arg Arg Glu Leu
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 Ile Leu Ala Ile Lys Asn Ala Arg Gln Arg Gln Glu Gly Ile Val Ser
 565 570 575
 Asn Ser Ile Met Tyr Phe Thr Glu Glu Pro Pro Glu Leu Pro Ala Asn
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gga gag atc gtg ggg atc atc aca cgg cac aac ctc acc tat gaa ttt	2597
Gly Glu Ile Val Gly Ile Ile Thr Arg His Asn Leu Thr Tyr Glu Phe	
845 850 855	
ctg cag gcc cgg ctg agg cag cac tac cag acc atc tga cagcccagcc	2646
Leu Gln Ala Arg Leu Arg Gln His Tyr Gln Thr Ile	
860 865 870	
caccctctcc tgggtgctgcc tggggaggca aatcatgctc actccggcgg gcacagctgg	2706
ctggggctgt tccggggcat ggaagattcc cagttacca ctcactcaga aagccgggag	2766
tcacggaca ccttgctggt cagaggccct gggggtggtt ttgaaccatc agagcttgga	2826
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 <213> Homo sapiens

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 35 40 45
 Glu Ser Leu Asp Tyr Asp Arg Cys Ile Asn Asp Pro Tyr Leu Glu Val
 50 55 60
 Leu Glu Thr Met Asp Asn Lys Lys Gly Arg Arg Tyr Glu Ala Val Lys
 65 70 75 80
 Trp Met Val Val Phe Ala Ile Gly Val Cys Thr Gly Leu Val Gly Leu
 85 90 95
 Phe Val Asp Phe Phe Val Arg Leu Phe Thr Gln Leu Lys Phe Gly Val
 100 105 110
 Val Gln Thr Ser Val Glu Glu Cys Ser Gln Lys Gly Cys Leu Ala Leu
 115 120 125

Ser Leu Leu Glu Leu Leu Gly Phe Asn Leu Thr Phe Val Phe Leu Ala
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 Ser Leu Leu Val Leu Ile Glu Pro Val Ala Ala Gly Ser Gly Ile Pro
 145 150 155 160
 Glu Val Lys Cys Tyr Leu Asn Gly Val Lys Val Pro Gly Ile Val Arg
 165 170 175
 Leu Arg Thr Leu Leu Cys Lys Val Leu Gly Val Leu Phe Ser Val Ala
 180 185 190
 Gly Gly Leu Phe Val Gly Lys Glu Gly Pro Met Ile His Ser Gly Ser
 195 200 205
 Val Val Gly Ala Gly Leu Pro Gln Phe Gln Ser Ile Ser Leu Arg Lys
 210 215 220
 Ile Gln Phe Asn Phe Pro Tyr Phe Arg Ser Asp Arg Asp Lys Arg Asp
 225 230 235 240
 Phe Val Ser Ala Gly Ala Ala Ala Gly Val Ala Ala Ala Phe Gly Ala
 245 250 255
 Pro Ile Gly Gly Thr Leu Phe Ser Leu Glu Glu Gly Ser Ser Phe Trp
 260 265 270
 Asn Gln Gly Leu Thr Trp Lys Val Leu Phe Cys Ser Met Ser Ala Thr
 275 280 285
 Phe Thr Leu Asn Phe Phe Arg Ser Gly Ile Gln Phe Gly Ser Trp Gly
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 Ser Phe Gln Leu Pro Gly Leu Leu Asn Phe Gly Glu Phe Lys Cys Ser
 305 310 315 320
 Asp Ser Asp Lys Lys Cys His Leu Trp Thr Ala Met Asp Leu Gly Phe
 325 330 335
 Phe Val Val Met Gly Val Ile Gly Gly Leu Leu Gly Ala Thr Phe Asn
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 Cys Leu Asn Lys Arg Leu Ala Lys Tyr Arg Met Arg Asn Val His Pro
 355 360 365
 Lys Pro Lys Leu Val Arg Val Leu Glu Ser Leu Leu Val Ser Leu Val
 370 375 380
 Thr Thr Val Val Val Phe Val Ala Ser Met Val Leu Gly Glu Cys Arg
 385 390 395 400
 Gln Met Ser Ser Ser Ser Gln Ile Gly Asn Asp Ser Phe Gln Leu Gln
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Val Thr Glu Asp Val Asn Ser Ser Ile Lys Thr Phe Phe Cys Pro Asn
 420 425 430
 Asp Thr Tyr Asn Asp Met Ala Thr Leu Phe Phe Asn Pro Gln Glu Ser
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 Ala Ile Leu Gln Leu Phe His Gln Asp Gly Thr Phe Ser Pro Val Thr
 450 455 460
 Leu Ala Leu Phe Phe Val Leu Tyr Phe Leu Leu Ala Cys Trp Thr Tyr
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 Gly Ile Ser Val Pro Ser Gly Leu Phe Val Pro Ser Leu Leu Cys Gly
 485 490 495
 Ala Ala Phe Gly Arg Leu Val Ala Asn Val Leu Lys Ser Tyr Ile Gly
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 Phe Leu Gly Gly Val Val Arg Met Thr Ile Ser Leu Thr Val Ile Leu
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 Ile Glu Ser Thr Asn Glu Ile Thr Tyr Gly Leu Pro Ile Met Val Thr
 545 550 555 560
 Leu Met Val Ala Lys Trp Thr Gly Asp Phe Phe Asn Lys Gly Ile Tyr
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 Asp Ile His Val Gly Leu Arg Gly Val Pro Leu Leu Glu Trp Glu Thr
 580 585 590
 Glu Val Glu Met Asp Lys Leu Arg Ala Ser Asp Ile Met Glu Pro Asn
 595 600 605
 Leu Thr Tyr Val Tyr Pro His Thr Arg Ile Gln Ser Leu Val Ser Ile
 610 615 620
 Leu Arg Thr Thr Val His His Ala Phe Pro Val Val Thr Glu Asn Arg
 625 630 635 640
 Gly Asn Glu Lys Glu Phe Met Lys Gly Asn Gln Leu Ile Ser Asn Asn
 645 650 655
 Ile Lys Phe Lys Lys Ser Ser Ile Leu Thr Arg Ala Gly Glu Gln Arg
 660 665 670
 Lys Arg Ser Gln Ser Met Lys Ser Tyr Pro Ser Ser Glu Leu Arg Asn
 675 680 685
 Met Cys Asp Glu His Ile Ala Ser Glu Glu Pro Ala Glu Lys Glu Asp
 690 695 700

Leu Leu Gln Gln Met Leu Glu Arg Arg Tyr Thr Pro Tyr Pro Asn Leu
 705 710 715 720
 Tyr Pro Asp Gln Ser Pro Ser Glu Asp Trp Thr Met Glu Glu Arg Phe
 725 730 735
 Arg Pro Leu Thr Phe His Gly Leu Ile Leu Arg Ser Gln Leu Val Thr
 740 745 750
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 755 760 765
 Gln Pro Arg Leu Ser Tyr Ala Glu Met Ala Glu Asp Tyr Pro Arg Tyr
 770 775 780
 Pro Asp Ile His Asp Leu Asp Leu Thr Leu Leu Asn Pro Arg Met Ile
 785 790 795 800
 Val Asp Val Thr Pro Tyr Met Asn Pro Ser Pro Phe Thr Val Ser Pro
 805 810 815
 Asn Thr His Val Ser Gln Val Phe Asn Leu Phe Arg Thr Met Gly Leu
 820 825 830
 Arg His Leu Pro Val Val Asn Ala Val Gly Glu Ile Val Gly Ile Ile
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 850 855 860
 His Tyr Gln Thr Ile
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 Met Ala Asn Val Ser Lys Lys Val Ser Trp Ser Gly Arg Asp
 1 5 10

cgc gat gac gag gag ggg gcg ccg ctg ctt cga agg acg ggg caa cct	158
Arg Asp Asp Glu Glu Gly Ala Pro Leu Leu Arg Arg Thr Gly Gln Pro	
15 20 25 30	
gac gag gag acg ccg ctg ctg aac gga gcc ggg ccg ggc gcg cgc cag	206
Asp Glu Glu Thr Pro Leu Leu Asn Gly Ala Gly Pro Gly Ala Arg Gln	
35 40 45	
tct cat tct gca ctt ttc cga att gga cag atg aac aac gtg gag ctg	254
Ser His Ser Ala Leu Phe Arg Ile Gly Gln Met Asn Asn Val Glu Leu	
50 55 60	
gat gat gaa ctc ctg gac ccg gaa gtg gac cct cct cac acc ttc ccc	302
Asp Asp Glu Leu Leu Asp Pro Glu Val Asp Pro Pro His Thr Phe Pro	
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aag gag att cca cac aac gag aag ctc ctc tcc ctc aag tat gag agc	350
Lys Glu Ile Pro His Asn Glu Lys Leu Leu Ser Leu Lys Tyr Glu Ser	
80 85 90	
ctg gac tat gac aat agt gag aat cag ctc ttc ctg gag gag gaa aga	398
Leu Asp Tyr Asp Asn Ser Glu Asn Gln Leu Phe Leu Glu Glu Glu Arg	
95 100 105 110	
cga atc aac cac acg gct ttc cgg aca gtg gag atc aag cgc tgg gtt	446
Arg Ile Asn His Thr Ala Phe Arg Thr Val Glu Ile Lys Arg Trp Val	
115 120 125	
atc tgt gcc ctc att gga atc ctc aca ggc cta gta gcc tgc ttc att	494
Ile Cys Ala Leu Ile Gly Ile Leu Thr Gly Leu Val Ala Cys Phe Ile	
130 135 140	
gac att gta gtg gag aac ctg gca ggc ctc aag tac cga gtc atc aag	542
Asp Ile Val Val Glu Asn Leu Ala Gly Leu Lys Tyr Arg Val Ile Lys	
145 150 155	
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Asp Asn Ile Asp Lys Phe Thr Glu Lys Gly Gly Leu Ser Phe Ser Leu	
160 165 170	
ctg ctg tgg gcc aca ctg aac tct gcc ttc gtg ctc gtg ggg tct gtg	638
Leu Leu Trp Ala Thr Leu Asn Ser Ala Phe Val Leu Val Gly Ser Val	
175 180 185 190	
att gtg gcc ttc ata gag cca gtt gct gct ggc agc gga atc cct cag	686
Ile Val Ala Phe Ile Glu Pro Val Ala Ala Gly Ser Gly Ile Pro Gln	
195 200 205	
atc aag tgc ttc ctc aat ggg gtg aag atc ccc cac gtg gtg cgg ctc	734
Ile Lys Cys Phe Leu Asn Gly Val Lys Ile Pro His Val Val Arg Leu	
210 215 220	

aag acg ctg gtg atc aag gtg tct ggc gtg att ctg tct gtg gta ggg Lys Thr Leu Val Ile Lys Val Ser Gly Val Ile Leu Ser Val Val Gly 225 230 235	782
gga ctg gct gtg gga aag gaa ggg cca atg atc cac tca gga tcc gtg Gly Leu Ala Val Gly Lys Glu Gly Pro Met Ile His Ser Gly Ser Val 240 245 250	830
att gct gca ggg att tca cag gga agg tcg acg tca ctc aag cga gat Ile Ala Ala Gly Ile Ser Gln Gly Arg Ser Thr Ser Leu Lys Arg Asp 255 260 265 270	878
ttt aag atc ttt gaa tat ttc cgc aga gat aca gag aag cgg gat ttt Phe Lys Ile Phe Glu Tyr Phe Arg Arg Asp Thr Glu Lys Arg Asp Phe 275 280 285	926
gtc tca gct gga gct gca gct gga gtg tct gct gcg ttt gga gca cct Val Ser Ala Gly Ala Ala Ala Gly Val Ser Ala Ala Phe Gly Ala Pro 290 295 300	974
gtg ggt ggg gtc ctg ttc agc ctg gaa gag ggc gcc tcc ttc tgg aat Val Gly Gly Val Leu Phe Ser Leu Glu Glu Gly Ala Ser Phe Trp Asn 305 310 315	1022
cag ttc ctg aca tgg aga att ttc ttt gct tcc atg att tcg acc ttt Gln Phe Leu Thr Trp Arg Ile Phe Phe Ala Ser Met Ile Ser Thr Phe 320 325 330	1070
aca ctg aat ttt gtt ctg agc atc tac cat gga aac atg tgg gac ctg Thr Leu Asn Phe Val Leu Ser Ile Tyr His Gly Asn Met Trp Asp Leu 335 340 345 350	1118
tcc agc cct ggc ctc ata aat ttt gga aga ttc gac tca gag aaa atg Ser Ser Pro Gly Leu Ile Asn Phe Gly Arg Phe Asp Ser Glu Lys Met 355 360 365	1166
gcc tac aca atc cat gag att cct gtc ttc atc gcc atg ggt gtg gtg Ala Tyr Thr Ile His Glu Ile Pro Val Phe Ile Ala Met Gly Val Val 370 375 380	1214
ggt ggc att ctt gga gcc gtg ttc aat gcc ttg aat tac tgg cta act Gly Gly Ile Leu Gly Ala Val Phe Asn Ala Leu Asn Tyr Trp Leu Thr 385 390 395	1262
atg ttt cga atc agg tac atc cac cgg ccc tgc ctc caa gtg att gag Met Phe Arg Ile Arg Tyr Ile His Arg Pro Cys Leu Gln Val Ile Glu 400 405 410	1310
gcc atg ctg gtg gca gct gtc aca gcc aca gtt gca ttt gtc ttg att Ala Met Leu Val Ala Ala Val Thr Ala Thr Val Ala Phe Val Leu Ile 415 420 425 430	1358

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Pro Leu Gln Leu Phe Cys Ala Asp Gly Glu Tyr Asn Ser Met Ala Ala	
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gcc ttc ttt aac acc cct gag aag agc gtc gtc agc ctg ttc cac gac	1502
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465 470 475	
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Pro Pro Gly Ser Tyr Asn Pro Met Thr Leu Gly Leu Phe Thr Leu Val	
480 485 490	
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Tyr Phe Phe Leu Ala Cys Trp Thr Tyr Gly Leu Thr Val Ser Ala Gly	
495 500 505 510	
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Val Phe Ile Pro Ser Leu Leu Ile Gly Ala Ala Trp Gly Arg Leu Phe	
515 520 525	
ggc atc tcc atg tcc tac ctc aca gga gca gcg atc tgg gca gat ccg	1694
Gly Ile Ser Met Ser Tyr Leu Thr Gly Ala Ala Ile Trp Ala Asp Pro	
530 535 540	
ggt aaa tac gcc ctg atg gga gct gct gct cag ctt ggt ggg atc gtg	1742
Gly Lys Tyr Ala Leu Met Gly Ala Ala Gln Leu Gly Gly Ile Val	
545 550 555	
agg atg acc ctt agc ctg aca gtc atc atg atg gag gcc acc agc aac	1790
Arg Met Thr Leu Ser Leu Thr Val Ile Met Met Glu Ala Thr Ser Asn	
560 565 570	
gtg acc tac ggt ttt ccc atc atg ttg gtg ctg atg act gcc aag att	1838
Val Thr Tyr Gly Phe Pro Ile Met Leu Val Leu Met Thr Ala Lys Ile	
575 580 585 590	
gtg ggt gat gtc ttc att gag ggc ctc tat gac atg cac atc cag ctg	1886
Val Gly Asp Val Phe Ile Glu Gly Leu Tyr Asp Met His Ile Gln Leu	
595 600 605	
caa agt gtg ccc ttc cta cac tgg gaa gcc ccg gtc acc tca cat tcg	1934
Gln Ser Val Pro Phe Leu His Trp Glu Ala Pro Val Thr Ser His Ser	
610 615 620	
ctc act gcc agg gaa gta atg agc acg cct gtg acc tgc ctg agg agg	1982
Leu Thr Ala Arg Glu Val Met Ser Thr Pro Val Thr Cys Leu Arg Arg	
625 630 635	

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Arg Glu Lys Val Gly Ile Ile Val Asp Val Leu Ser Asp Thr Ala Ser	
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Asn His Asn Gly Phe Pro Val Val Glu Asp Val Gly Asp Thr Gln Pro	
655 660 665 670	
gcc aga ctc caa ggc cta atc ctg cgt tcc cag ctc atc gtg ctc ctg	2126
Ala Arg Leu Gln Gly Leu Ile Leu Arg Ser Gln Leu Ile Val Leu Leu	
675 680 685	
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Lys His Lys Val Phe Val Glu Arg Ser Asn Met Gly Leu Val Gln Arg	
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Arg Leu Arg Leu Lys Asp Phe Arg Asp Ala Tyr Pro Arg Phe Pro Pro	
705 710 715	
atc cag tcc atc cac gta tcc cag gat gag cgg gag tgc acc atg gac	2270
Ile Gln Ser Ile His Val Ser Gln Asp Glu Arg Glu Cys Thr Met Asp	
720 725 730	
ctt tct gag ttc atg aac cct tct ccc tac act gtg cca cag gag gca	2318
Leu Ser Glu Phe Met Asn Pro Ser Pro Tyr Thr Val Pro Gln Glu Ala	
735 740 745 750	
tct ctt cct cga gtg ttc aag ctg ttc cgg gct ctg ggc ctg agg cac	2366
Ser Leu Pro Arg Val Phe Lys Leu Phe Arg Ala Leu Gly Leu Arg His	
755 760 765	
ctg gtc gta gta gac aac cac aat cag gtg gtc ggg ctg gtg acc agg	2414
Leu Val Val Val Asp Asn His Asn Gln Val Val Gly Leu Val Thr Arg	
770 775 780	
aag gac cta gca aga tac cgc cta gga aaa gga ggc cta gaa gag ctt	2462
Lys Asp Leu Ala Arg Tyr Arg Leu Gly Lys Gly Gly Leu Glu Glu Leu	
785 790 795	
tca ctg gcc cag acg tga gggctggccc ccacccttgg gcagcggcac	2510
Ser Leu Ala Gln Thr	
800	
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 <212> PRT
 <213> Rattus norvegicus

<400> 12

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Glu	Thr	Pro	Leu	Leu	Asn	Gly	Ala	Gly	Pro	Gly	Ala	Arg	Gln	Ser	His	35	40	45	
Ser	Ala	Leu	Phe	Arg	Ile	Gly	Gln	Met	Asn	Asn	Val	Glu	Leu	Asp	Asp	50	55	60	
Glu	Leu	Leu	Asp	Pro	Glu	Val	Asp	Pro	Pro	His	Thr	Phe	Pro	Lys	Glu	65	70	75	80
Ile	Pro	His	Asn	Glu	Lys	Leu	Leu	Ser	Leu	Lys	Tyr	Glu	Ser	Leu	Asp	85	90	95	
Tyr	Asp	Asn	Ser	Glu	Asn	Gln	Leu	Phe	Leu	Glu	Glu	Glu	Arg	Arg	Ile	100	105	110	
Asn	His	Thr	Ala	Phe	Arg	Thr	Val	Glu	Ile	Lys	Arg	Trp	Val	Ile	Cys	115	120	125	
Ala	Leu	Ile	Gly	Ile	Leu	Thr	Gly	Leu	Val	Ala	Cys	Phe	Ile	Asp	Ile	130	135	140	
Val	Val	Glu	Asn	Leu	Ala	Gly	Leu	Lys	Tyr	Arg	Val	Ile	Lys	Asp	Asn	145	150	155	160
Ile	Asp	Lys	Phe	Thr	Glu	Lys	Gly	Gly	Leu	Ser	Phe	Ser	Leu	Leu	Leu	165	170	175	
Trp	Ala	Thr	Leu	Asn	Ser	Ala	Phe	Val	Leu	Val	Gly	Ser	Val	Ile	Val	180	185	190	
Ala	Phe	Ile	Glu	Pro	Val	Ala	Ala	Gly	Ser	Gly	Ile	Pro	Gln	Ile	Lys	195	200	205	
Cys	Phe	Leu	Asn	Gly	Val	Lys	Ile	Pro	His	Val	Val	Arg	Leu	Lys	Thr	210	215	220	
Leu	Val	Ile	Lys	Val	Ser	Gly	Val	Ile	Leu	Ser	Val	Val	Gly	Gly	Leu	225	230	235	240
Ala	Val	Gly	Lys	Glu	Gly	Pro	Met	Ile	His	Ser	Gly	Ser	Val	Ile	Ala	245	250	255	

Ala Gly Ile Ser Gln Gly Arg Ser Thr Ser Leu Lys Arg Asp Phe Lys
 260 265 270

Ile Phe Glu Tyr Phe Arg Arg Asp Thr Glu Lys Arg Asp Phe Val Ser
 275 280 285

Ala Gly Ala Ala Ala Gly Val Ser Ala Ala Phe Gly Ala Pro Val Gly
 290 295 300

Gly Val Leu Phe Ser Leu Glu Glu Gly Ala Ser Phe Trp Asn Gln Phe
 305 310 315 320

Leu Thr Trp Arg Ile Phe Phe Ala Ser Met Ile Ser Thr Phe Thr Leu
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Asn Phe Val Leu Ser Ile Tyr His Gly Asn Met Trp Asp Leu Ser Ser
 340 345 350

Pro Gly Leu Ile Asn Phe Gly Arg Phe Asp Ser Glu Lys Met Ala Tyr
 355 360 365

Thr Ile His Glu Ile Pro Val Phe Ile Ala Met Gly Val Val Gly Gly
 370 375 380

Ile Leu Gly Ala Val Phe Asn Ala Leu Asn Tyr Trp Leu Thr Met Phe
 385 390 395 400

Arg Ile Arg Tyr Ile His Arg Pro Cys Leu Gln Val Ile Glu Ala Met
 405 410 415

Leu Val Ala Ala Val Thr Ala Thr Val Ala Phe Val Leu Ile Tyr Ser
 420 425 430

Ser Arg Asp Cys Gln Pro Leu Gln Gly Ser Ser Met Ser Tyr Pro Leu
 435 440 445

Gln Leu Phe Cys Ala Asp Gly Glu Tyr Asn Ser Met Ala Ala Ala Phe
 450 455 460

Phe Asn Thr Pro Glu Lys Ser Val Val Ser Leu Phe His Asp Pro Pro
 465 470 475 480

Gly Ser Tyr Asn Pro Met Thr Leu Gly Leu Phe Thr Leu Val Tyr Phe
 485 490 495

Phe Leu Ala Cys Trp Thr Tyr Gly Leu Thr Val Ser Ala Gly Val Phe
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Ile Pro Ser Leu Leu Ile Gly Ala Ala Trp Gly Arg Leu Phe Gly Ile
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Ser Met Ser Tyr Leu Thr Gly Ala Ala Ile Trp Ala Asp Pro Gly Lys
 530 535 540

Tyr Ala Leu Met Gly Ala Ala Ala Gln Leu Gly Gly Ile Val Arg Met
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 Thr Leu Ser Leu Thr Val Ile Met Met Glu Ala Thr Ser Asn Val Thr
 565 570 575
 Tyr Gly Phe Pro Ile Met Leu Val Leu Met Thr Ala Lys Ile Val Gly
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 Asp Val Phe Ile Glu Gly Leu Tyr Asp Met His Ile Gln Leu Gln Ser
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 Val Pro Phe Leu His Trp Glu Ala Pro Val Thr Ser His Ser Leu Thr
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 Ala Arg Glu Val Met Ser Thr Pro Val Thr Cys Leu Arg Arg Arg Glu
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 Lys Val Gly Ile Ile Val Asp Val Leu Ser Asp Thr Ala Ser Asn His
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 Asn Gly Phe Pro Val Val Glu Asp Val Gly Asp Thr Gln Pro Ala Arg
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 Leu Gln Gly Leu Ile Leu Arg Ser Gln Leu Ile Val Leu Leu Lys His
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 Lys Val Phe Val Glu Arg Ser Asn Met Gly Leu Val Gln Arg Arg Leu
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 Arg Leu Lys Asp Phe Arg Asp Ala Tyr Pro Arg Phe Pro Pro Ile Gln
 705 710 715 720
 Ser Ile His Val Ser Gln Asp Glu Arg Glu Cys Thr Met Asp Leu Ser
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 Glu Phe Met Asn Pro Ser Pro Tyr Thr Val Pro Gln Glu Ala Ser Leu
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 Pro Arg Val Phe Lys Leu Phe Arg Ala Leu Gly Leu Arg His Leu Val
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 Val Val Asp Asn His Asn Gln Val Val Gly Leu Val Thr Arg Lys Asp
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 Gly Thr Pro Leu Leu Asn Gly Ala Gly Pro Gly Ala Ala Arg Gln Ser
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cca cgt tct gcg ctt ttc cga gtc gga cat atg agc agc gtg gag ctg 144
 Pro Arg Ser Ala Leu Phe Arg Val Gly His Met Ser Ser Val Glu Leu
 35 40 45

gat gat gaa ctt ttg gac ccg gat atg gac cct cca cat ccc ttc ccc 192
 Asp Asp Glu Leu Leu Asp Pro Asp Met Asp Pro Pro His Pro Phe Pro
 50 55 60

aag gag atc cca cac aac gag aag ctc ctg tcc ctc aag tat gag agc 240
 Lys Glu Ile Pro His Asn Glu Lys Leu Leu Ser Leu Lys Tyr Glu Ser
 65 70 75 80

ttg gac tat gac aac agt gag aac cag ctg ttc ctg gag gag gag cgg 288
 Leu Asp Tyr Asp Asn Ser Glu Asn Gln Leu Phe Leu Glu Glu Glu Arg
 85 90 95

cgg atc aat cac acg gcc ttc cgg acg gtg gag atc aag cgc tgg gtc 336
 Arg Ile Asn His Thr Ala Phe Arg Thr Val Glu Ile Lys Arg Trp Val
 100 105 110

atc tgc gcc ctc att ggg atc ctc acg ggc ctc gtg gcc tgc ttc att 384
 Ile Cys Ala Leu Ile Gly Ile Leu Thr Gly Leu Val Ala Cys Phe Ile
 115 120 125

gac atc gtg gtg gaa aac ctg gct ggc ctc aag tac agg gtc atc aag 432
 Asp Ile Val Val Glu Asn Leu Ala Gly Leu Lys Tyr Arg Val Ile Lys
 130 135 140

ggc aat atc gac aag ttc aca gag aag ggc gga ctg tcc ttc tcc ctg 480
 Gly Asn Ile Asp Lys Phe Thr Glu Lys Gly Gly Leu Ser Phe Ser Leu
 145 150 155 160

ttg ctg tgg gcc acg ctg aac gcc gcc ttc gtg ctc gtg ggc tct gtg 528
 Leu Leu Trp Ala Thr Leu Asn Ala Ala Phe Val Leu Val Gly Ser Val
 165 170 175

att	gtg	gct	ttc	ata	gag	ccg	gtg	gct	gct	ggc	agc	gga	atc	ccc	cag	576
Ile	Val	Ala	Phe	Ile	Glu	Pro	Val	Ala	Ala	Gly	Ser	Gly	Ile	Pro	Gln	
		180					185						190			
atc	aag	tgc	ttc	ctc	aac	ggg	gtg	aag	atc	ccc	cac	gtg	gtg	cgg	ctc	624
Ile	Lys	Cys	Phe	Leu	Asn	Gly	Val	Lys	Ile	Pro	His	Val	Val	Arg	Leu	
	195					200						205				
aag	acg	ttg	gtg	atc	aaa	gtg	tcc	ggg	gtg	atc	ctg	tcc	gtg	gtc	ggg	672
Lys	Thr	Leu	Val	Ile	Lys	Val	Ser	Gly	Val	Ile	Leu	Ser	Val	Val	Gly	
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ggc	ctg	gcc	gtg	gga	aag	gaa	ggg	ccg	atg	atc	cac	tca	ggg	tca	gtg	720
Gly	Leu	Ala	Val	Gly	Lys	Glu	Gly	Pro	Met	Ile	His	Ser	Gly	Ser	Val	
225					230					235					240	
att	gcc	gcc	ggg	atc	tct	cag	gga	agg	tca	agc	tca	ctg	aaa	cga	gat	768
Ile	Ala	Ala	Gly	Ile	Ser	Gln	Gly	Arg	Ser	Ser	Ser	Leu	Lys	Arg	Asp	
			245					250						255		
ttc	aag	atc	ttc	gag	tac	ctc	cgc	aga	gac	aca	gag	aag	cgg	gac	ttc	816
Phe	Lys	Ile	Phe	Glu	Tyr	Leu	Arg	Arg	Asp	Thr	Glu	Lys	Arg	Asp	Phe	
		260					265						270			
gtc	tcc	gca	ggg	gct	gcg	gcc	gga	gtg	tca	gcg	gcg	ttt	gga	gcc	ccc	864
Val	Ser	Ala	Gly	Ala	Ala	Ala	Gly	Val	Ser	Ala	Ala	Phe	Gly	Ala	Pro	
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gtg	ggg	ggg	gtc	ctg	ttc	agc	ttg	gag	gag	ggg	gcg	tcc	ttc	tgg	aac	912
Val	Gly	Gly	Val	Leu	Phe	Ser	Leu	Glu	Glu	Gly	Ala	Ser	Phe	Trp	Asn	
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cag	ttc	ctg	acc	tgg	agg	atc	ttc	ttt	gct	tcc	atg	atc	tcc	acg	ttc	960
Gln	Phe	Leu	Thr	Trp	Arg	Ile	Phe	Phe	Ala	Ser	Met	Ile	Ser	Thr	Phe	
305					310					315					320	
acc	ctg	aat	ttt	gtt	ctg	agc	att	tac	cac	ggg	aac	atg	tgg	gac	ctg	1008
Thr	Leu	Asn	Phe	Val	Leu	Ser	Ile	Tyr	His	Gly	Asn	Met	Trp	Asp	Leu	
			325					330						335		
tcc	agc	cca	ggc	ctc	atc	aac	ttc	gga	agg	ttt	gac	tcg	gag	aaa	atg	1056
Ser	Ser	Pro	Gly	Leu	Ile	Asn	Phe	Gly	Arg	Phe	Asp	Ser	Glu	Lys	Met	
		340						345					350			
gcc	tac	acg	atc	cac	gag	atc	ccg	gtc	ttc	atc	gcc	atg	ggc	gtg	gtg	1104
Ala	Tyr	Thr	Ile	His	Glu	Ile	Pro	Val	Phe	Ile	Ala	Met	Gly	Val	Val	
		355					360					365				
ggc	ggg	gtg	ctt	gga	gca	gtg	ttc	aat	gcc	ttg	aac	tac	tgg	ctg	acc	1152
Gly	Gly	Val	Leu	Gly	Ala	Val	Phe	Asn	Ala	Leu	Asn	Tyr	Trp	Leu	Thr	
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Met Phe Arg Ile Arg Tyr Ile His Arg Pro Cys Leu Gln Val Ile Glu	
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Ala Val Leu Val Ala Ala Val Thr Ala Thr Val Ala Phe Val Leu Ile	
405 410 415	
tac tcg tcg cgg gat tgc cag ccc ctg cag ggg ggc tcc atg tcc tac	1296
Tyr Ser Ser Arg Asp Cys Gln Pro Leu Gln Gly Gly Ser Met Ser Tyr	
420 425 430	
ccg ctg cag ctc ttt tgt gca gat ggc gag tac aac tcc atg gct gcg	1344
Pro Leu Gln Leu Phe Cys Ala Asp Gly Glu Tyr Asn Ser Met Ala Ala	
435 440 445	
gcc ttc ttc aac acc ccg gag aag agc gtg gtg agc ctc ttc cac gac	1392
Ala Phe Phe Asn Thr Pro Glu Lys Ser Val Val Ser Leu Phe His Asp	
450 455 460	
ccg cca ggc tcc tac aac ccc ctg acc ctc ggc ctg ttc acg ctg gtc	1440
Pro Pro Gly Ser Tyr Asn Pro Leu Thr Leu Gly Leu Phe Thr Leu Val	
465 470 475 480	
tac ttc ttc ctg gcc tgc tgg acc tac ggg ctc acg gtg tct gcc ggg	1488
Tyr Phe Phe Leu Ala Cys Trp Thr Tyr Gly Leu Thr Val Ser Ala Gly	
485 490 495	
gtc ttc atc ccg tcc ctg ctc atc ggg gct gcc tgg ggc cgg ctc ttt	1536
Val Phe Ile Pro Ser Leu Leu Ile Gly Ala Ala Trp Gly Arg Leu Phe	
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Gly Ile Ser Leu Ser Tyr Leu Thr Gly Ala Ala Ile Trp Ala Asp Pro	
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Gly Lys Tyr Ala Leu Met Gly Ala Ala Ala Gln Leu Gly Gly Ile Val	
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cgg atg aca ctg agc ctg acc gtc atc atg atg gag gcc acc agc aac	1680
Arg Met Thr Leu Ser Leu Thr Val Ile Met Met Glu Ala Thr Ser Asn	
545 550 555 560	
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Val Thr Tyr Gly Phe Pro Ile Met Leu Val Leu Met Thr Ala Lys Ile	
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Val Gly Asp Val Phe Ile Glu Gly Leu Tyr Asp Met His Ile Gln Leu	
580 585 590	

cag agt gtg ccc ttc ctg cac tgg gag gcc ccg gtc acc tca cac tca	1824
Gln Ser Val Pro Phe Leu His Trp Glu Ala Pro Val Thr Ser His Ser	
595 600 605	
ctc act gcc agg gag gtg atg agc aca cca gtg acc tgc ctg agg cgg	1872
Leu Thr Ala Arg Glu Val Met Ser Thr Pro Val Thr Cys Leu Arg Arg	
610 615 620	
cgt gag aag gtc ggc gtc att gtg gac gtg ctg agc gac acg gcg tcc	1920
Arg Glu Lys Val Gly Val Ile Val Asp Val Leu Ser Asp Thr Ala Ser	
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aat cac aac ggc ttc ccc gtg gtg gag cat gcc gat gac acc cag cct	1968
Asn His Asn Gly Phe Pro Val Val Glu His Ala Asp Asp Thr Gln Pro	
645 650 655	
gcc cgg ctc cag ggc ctg atc ctg cgc tcc cag ctc atc gtt ctc cta	2016
Ala Arg Leu Gln Gly Leu Ile Leu Arg Ser Gln Leu Ile Val Leu Leu	
660 665 670	
aag cac aag gtg ttt gtg gag cgg tcc aac ctg ggc ctg gta cag cgg	2064
Lys His Lys Val Phe Val Glu Arg Ser Asn Leu Gly Leu Val Gln Arg	
675 680 685	
cgc ctg agg ctg aag gac ttc cga gac gcc tac ccg cgc ttc cca ccc	2112
Arg Leu Arg Leu Lys Asp Phe Arg Asp Ala Tyr Pro Arg Phe Pro Pro	
690 695 700	
atc cag tcc atc cac gtg tcc cag gac gag cgg gag tgc acc atg gac	2160
Ile Gln Ser Ile His Val Ser Gln Asp Glu Arg Glu Cys Thr Met Asp	
705 710 715 720	
ctc tcc gag ttc atg aac ccc tcc ccc tac acg gtg ccc cag gag gcg	2208
Leu Ser Glu Phe Met Asn Pro Ser Pro Tyr Thr Val Pro Gln Glu Ala	
725 730 735	
tcg ctc cca cgg gtg ttc aag ctg ttc cgg gcc ctg ggc ctg cgg cac	2256
Ser Leu Pro Arg Val Phe Lys Leu Phe Arg Ala Leu Gly Leu Arg His	
740 745 750	
ctg gtg gtg gtg gac aac cgc aat cag gtt gtc ggg ttg gtg acc agg	2304
Leu Val Val Val Asp Asn Arg Asn Gln Val Val Gly Leu Val Thr Arg	
755 760 765	
aag gac ctc gcc agg tac cgc ctg gga aag aga ggc ttg gag gag ctc	2352
Lys Asp Leu Ala Arg Tyr Arg Leu Gly Lys Arg Gly Leu Glu Glu Leu	
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Ser Leu Ala Gln Thr	
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 35 40 45
 Asp Asp Glu Leu Leu Asp Pro Asp Met Asp Pro Pro His Pro Phe Pro
 50 55 60
 Lys Glu Ile Pro His Asn Glu Lys Leu Leu Ser Leu Lys Tyr Glu Ser
 65 70 75 80
 Leu Asp Tyr Asp Asn Ser Glu Asn Gln Leu Phe Leu Glu Glu Glu Arg
 85 90 95
 Arg Ile Asn His Thr Ala Phe Arg Thr Val Glu Ile Lys Arg Trp Val
 100 105 110
 Ile Cys Ala Leu Ile Gly Ile Leu Thr Gly Leu Val Ala Cys Phe Ile
 115 120 125
 Asp Ile Val Val Glu Asn Leu Ala Gly Leu Lys Tyr Arg Val Ile Lys
 130 135 140
 Gly Asn Ile Asp Lys Phe Thr Glu Lys Gly Gly Leu Ser Phe Ser Leu
 145 150 155 160
 Leu Leu Trp Ala Thr Leu Asn Ala Ala Phe Val Leu Val Gly Ser Val
 165 170 175
 Ile Val Ala Phe Ile Glu Pro Val Ala Ala Gly Ser Gly Ile Pro Gln
 180 185 190
 Ile Lys Cys Phe Leu Asn Gly Val Lys Ile Pro His Val Val Arg Leu
 195 200 205
 Lys Thr Leu Val Ile Lys Val Ser Gly Val Ile Leu Ser Val Val Gly
 210 215 220
 Gly Leu Ala Val Gly Lys Glu Gly Pro Met Ile His Ser Gly Ser Val
 225 230 235 240
 Ile Ala Ala Gly Ile Ser Gln Gly Arg Ser Ser Ser Leu Lys Arg Asp
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Phe	Lys	Ile	Phe	Glu	Tyr	Leu	Arg	Arg	Asp	Thr	Glu	Lys	Arg	Asp	Phe	260	265	270
Val	Ser	Ala	Gly	Ala	Ala	Ala	Gly	Val	Ser	Ala	Ala	Phe	Gly	Ala	Pro	275	280	285
Val	Gly	Gly	Val	Leu	Phe	Ser	Leu	Glu	Glu	Gly	Ala	Ser	Phe	Trp	Asn	290	295	300
Gln	Phe	Leu	Thr	Trp	Arg	Ile	Phe	Phe	Ala	Ser	Met	Ile	Ser	Thr	Phe	305	310	315
Thr	Leu	Asn	Phe	Val	Leu	Ser	Ile	Tyr	His	Gly	Asn	Met	Trp	Asp	Leu	325	330	335
Ser	Ser	Pro	Gly	Leu	Ile	Asn	Phe	Gly	Arg	Phe	Asp	Ser	Glu	Lys	Met	340	345	350
Ala	Tyr	Thr	Ile	His	Glu	Ile	Pro	Val	Phe	Ile	Ala	Met	Gly	Val	Val	355	360	365
Gly	Gly	Val	Leu	Gly	Ala	Val	Phe	Asn	Ala	Leu	Asn	Tyr	Trp	Leu	Thr	370	375	380
Met	Phe	Arg	Ile	Arg	Tyr	Ile	His	Arg	Pro	Cys	Leu	Gln	Val	Ile	Glu	385	390	395
Ala	Val	Leu	Val	Ala	Ala	Val	Thr	Ala	Thr	Val	Ala	Phe	Val	Leu	Ile	405	410	415
Tyr	Ser	Ser	Arg	Asp	Cys	Gln	Pro	Leu	Gln	Gly	Gly	Ser	Met	Ser	Tyr	420	425	430
Pro	Leu	Gln	Leu	Phe	Cys	Ala	Asp	Gly	Glu	Tyr	Asn	Ser	Met	Ala	Ala	435	440	445
Ala	Phe	Phe	Asn	Thr	Pro	Glu	Lys	Ser	Val	Val	Ser	Leu	Phe	His	Asp	450	455	460
Pro	Pro	Gly	Ser	Tyr	Asn	Pro	Leu	Thr	Leu	Gly	Leu	Phe	Thr	Leu	Val	465	470	475
Tyr	Phe	Phe	Leu	Ala	Cys	Trp	Thr	Tyr	Gly	Leu	Thr	Val	Ser	Ala	Gly	485	490	495
Val	Phe	Ile	Pro	Ser	Leu	Leu	Ile	Gly	Ala	Ala	Trp	Gly	Arg	Leu	Phe	500	505	510
Gly	Ile	Ser	Leu	Ser	Tyr	Leu	Thr	Gly	Ala	Ala	Ile	Trp	Ala	Asp	Pro	515	520	525
Gly	Lys	Tyr	Ala	Leu	Met	Gly	Ala	Ala	Ala	Gln	Leu	Gly	Gly	Ile	Val	530	535	540

Arg Met Thr Leu Ser Leu Thr Val Ile Met Met Glu Ala Thr Ser Asn
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 Val Thr Tyr Gly Phe Pro Ile Met Leu Val Leu Met Thr Ala Lys Ile
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 Val Gly Asp Val Phe Ile Glu Gly Leu Tyr Asp Met His Ile Gln Leu
 580 585 590
 Gln Ser Val Pro Phe Leu His Trp Glu Ala Pro Val Thr Ser His Ser
 595 600 605
 Leu Thr Ala Arg Glu Val Met Ser Thr Pro Val Thr Cys Leu Arg Arg
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 Arg Glu Lys Val Gly Val Ile Val Asp Val Leu Ser Asp Thr Ala Ser
 625 630 635 640
 Asn His Asn Gly Phe Pro Val Val Glu His Ala Asp Asp Thr Gln Pro
 645 650 655
 Ala Arg Leu Gln Gly Leu Ile Leu Arg Ser Gln Leu Ile Val Leu Leu
 660 665 670
 Lys His Lys Val Phe Val Glu Arg Ser Asn Leu Gly Leu Val Gln Arg
 675 680 685
 Arg Leu Arg Leu Lys Asp Phe Arg Asp Ala Tyr Pro Arg Phe Pro Pro
 690 695 700
 Ile Gln Ser Ile His Val Ser Gln Asp Glu Arg Glu Cys Thr Met Asp
 705 710 715 720
 Leu Ser Glu Phe Met Asn Pro Ser Pro Tyr Thr Val Pro Gln Glu Ala
 725 730 735
 Ser Leu Pro Arg Val Phe Lys Leu Phe Arg Ala Leu Gly Leu Arg His
 740 745 750
 Leu Val Val Val Asp Asn Arg Asn Gln Val Val Gly Leu Val Thr Arg
 755 760 765
 Lys Asp Leu Ala Arg Tyr Arg Leu Gly Lys Arg Gly Leu Glu Glu Leu
 770 775 780
 Ser Leu Ala Gln Thr
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